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In the Claims

- 1. (Original) A method of treating motor neuron disease in a patient in need thereof, the method comprising delivering to a target site, a lentiviral vector pseudotyped with a rabies G envelope protein, the lentiviral vector comprising a nucleotide of interest (NOI), wherein the target site is at least part of the central nervous system, and wherein the NOI encodes a gene product that is expressed in the target site, thereby treating motor neuron disease in the patient.
- 2. (Original) The method of claim 1, wherein treating motor neuron disease comprises halting or delaying the degeneration of motor neurons in the patient.
- 3. (Original) The method of claim 1, wherein the delivery to the target site of the lentiviral vector comprising the NOI is by diffusion.
- 4. (Original) The method of claim 1, wherein the delivery to the target site of the lentiviral vector comprising the NOI is via intramuscular or intraparenchymal administration.
- 5. (Original) The method of claim 1, wherein the delivery to the target site of the lentiviral vector comprising the NOI is via retrograde transport.
- 6. (Original) The method of claim 1, wherein the motor neuron disease is ALS (Amyotrophic Lateral Sclerosis) or SMA (Spinal Muscular Atrophy).
- 7. (Original) The method of claim 1, wherein the target site comprises a target cell selected from the group consisting of a sensory neuron, a motor neuron, an astrocyte, an oligodendrocyte, a microglial cell, and an ependymal cell.
- 8. (Original) The method of claim 1, wherein the NOI encodes a neurotrophic or anti-apoptotic gene product.
- 9. (Original) The method of claim 1, wherein the NOI encodes a protein selected from the group consisting of SMN-1, GDNF, IGF-1, VEGF, XIAP, NIAP, and bcl-2.
- 10. (Original) The method of claim 1, wherein the lentiviral vector is pseudotyped with a mutant, variant, fragment or homologue of a rabies G envelope protein.
- (Original) A method of delivering a nucleotide of interest (NOI) to a target site, comprising introducing a lentiviral vector comprising an NOI and pseudotyped with a rabies G envelope protein to the target site, wherein the target site is at least part of the central nervous system.
- 12. (Original) The method of claim 11, wherein the NOI can treat motor neuron disease by halting or delaying the degeneration of motor neurons in a subject.

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- 13. (Original) The method of claim 11, wherein the NOI is introduced to the target site by diffusion.
- 14. (Original) The method of claim 11, wherein the NOI is introduced to the target site via intramuscular or intraparenchymal administration of the lentiviral vector.
- 15. (Original) The method of claim 11, wherein the NOI is introduced to the target site by retrograde transport.
- 16. (Original) The method of claim 12, wherein the motor neuron disease is ALS (Amyotrophic Lateral Sclerosis) or SMA (Spinal Muscular Atrophy).
- 17. (Original) The method of claim 11, wherein the target site comprises a target cell selected from the group consisting of a sensory neuron, a motor neuron, an astrocyte, an oligodendrocyte, a microglial cell, and an ependymal cell.
- 18. (Original) The method of claim 11, wherein the NOI encodes a neurotrophic or anti-apoptotic gene product.
- 19. (Original) The method of claim 11, wherein the NOI encodes a protein selected from the group consisting of SMN-1, GDNF, IGF-1, VEGF, XIAP, NIAP, bcl-2, and RARβ2.
- 20. (Original) The method of claim 11, wherein the lentiviral vector is pseudotyped with a mutant, variant, fragment or homologue of a rabies G envelope protein.
- 21. (Original) A method of expressing a nucleotide of interest (NOI) in a target site, comprising introducing a lentiviral vector comprising an NOI and pseudotyped with a rabies G envelope protein to the target site, wherein the target site is at least part of the central nervous system, and wherein the NOI encodes a gene product that is expressed in the target site.
- 22. (Original) The method of claim 21, wherein expression of the gene product can treat motor neuron disease by halting or delaying the degeneration of motor neurons in a subject.
- 23. (Original) The method of claim 21, wherein the NOI is introduced to the target site by diffusion.
- 24. (Original) The method of claim 21, wherein the NOI is introduced to the target site via intramuscular or intraparenchymal administration of the lentiviral vector.
- 25. (Original) The method of claim 21, wherein the NOI is introduced to the target site by retrograde transport.
- 26. (Original) The method of claim 22, wherein the motor neuron disease is ALS (Amyotrophic Lateral Sclerosis) or SMA (Spinal Muscular Atrophy).

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- 27. (Original) The method of claim 21, wherein the target site comprises a target cell selected from the group consisting of a sensory neuron, a motor neuron, an astrocyte, an oligodendrocyte, a microglial cell, and an ependymal cell.
- 28. (Original) The method of claim 21, wherein the NOI encodes a neurotrophic or anti-apoptotic gene product.
- 29. (Original) The method of claim 21, wherein the NOI encodes a protein selected from the group consisting of SMN-1, GDNF, IGF-1, VEGF, XIAP, NIAP, bcl-2, and RARB2.
- 30. (Original) The method of claim 21, wherein the lentiviral vector is pseudotyped with a mutant, variant, fragment or homologue of a rabies G envelope protein.
- 31. (Original) The method of claim 21, wherein expression of the gene product treats or prevents pain associated with a neurological disorder or injury.
- 32. (Previously presented) The method of claim 1, wherein the motor neuron disease is stroke.
- 33. (Previously presented) The method of claim 1, wherein the target site is hippocampal neurons.
- 34. (Previously presented) The method of claim 1, wherein the lentiviral vector is an equine infectious anemia virus (EIAV) vector.
 - 35. (Previously presented) The method of claim 34, wherein the NOI encodes Bcl-2.
 - 36. (Previously presented) The method of claim 34, wherein the NOI encodes GDNF.
- 37. (Previously presented) The method of claim 11, wherein the target site is hippocampal neurons.
- 38. (Previously presented) The method of claim 11, wherein the lentiviral vector is an EIAV vector.
 - 39. (Previously presented) The method of claim 38, wherein the NOI encodes Bcl-2.
 - 40. (Previously presented) The method of claim 38, wherein the NOI encodes GDNF.
- 41. (Previously presented) The method of claim 21, wherein the target site is hippocampal neurons.
- 42. (Previously presented) The method of claim 21, wherein the lentiviral vector is an EIAV vector.

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- 43. (Previously presented) The method of claim 42, wherein the NOI encodes Bcl-2.
- 44. (Previously presented) The method of claim 42, wherein the NOI encodes GDNF.

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45. (New) The method of claim 1, wherein the gene product is an interfering RNA.

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46. (New) The method of claim 45, wherein the interfering RNA is a short hairpin

RNA.

- 47. (New) The method of claim 11, wherein the NOI is an interfering RNA.
- 48. (New) The method of claim 47, wherein the interfering RNA is a short hairpin

RNA.

- 49. (New) The method of claim 21, wherein the gene product is an interfering RNA.
- 50. (New) The method of claim 49, wherein the interfering RNA is a short hairpin RNA.